Terrace Bay District Fisheries Management Plan 1987 - 2000

Draft Plan

February, 1988

Ontario
Ministry of
Natural
Resources

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PREFACE

This document contains the fisheries resource information and the proposed management strategies and tactics which will be used to form the Terrace Bay District Fisheries Management Plan.

In conjunction with the District Land Use Guidelines and the Lake Superior Strategic Fisheries Management Plan, the purpose of this preliminary plan is to describe the short-term (5-year) fisheries management projects to be carried out within Terrace Bay District and the long-term (year 2000) direction and objectives of fisheries management efforts.

It provides the public with information regarding the long-term intentions of the Ministry of Natural Resources for fisheries management in the district and, in addition, stipulates targets against which the fisheries management program in Terrace Bay District can be measured by both the public and fisheries resource managers.

A summary of the Background Information and Optional Fisheries Management Strategies document was distributed to the public in November and December, 1986 (OMNR, 1986). Interested groups and individuals were asked to submit their comments. These comments have been considered in the selection of the preferred management strategies presented in this draft plan.

Public comments on this preliminary management plan will be used to prepare the final plan.

R.G. Running
District Manager
Terrace Bay District

INTRODUCTION

The purpose of the Terrace Bay District Draft Fisheries Management Plan is to describe the direction of fisheries management efforts within the Terrace Bay District to the year 2000. It specifically describes those fisheries management actions to be carried out on the basis of 5-year intervals.

Integrated Resource Management Planning:

The Terrace Bay District Fisheries Management Plan is being developed as part of the Ministry of Natural Resources integrated resource management planning strategy. Resource management planning is carried out to plan for a specific resource with objectives and targets which will provide the manager direction on how to manage the resource, while at the same time taking into consideration other resource objectives and targets so they too can be achieved. The Northwestern Ontario Strategic Land Use Plan (S.L.U.P.) provided the management direction, policies, targets, and guidelines for resource management within Northwestern Ontario. This document provided the direction for the Terrace Bay District Land Use Guidelines (D.L.U.G.) which describes resource management directions concerning the use of land and water within the district and identifies where and how the Ministry intends to achieve its objectives (OMNR, 1982a).

Fisheries Management Planning:

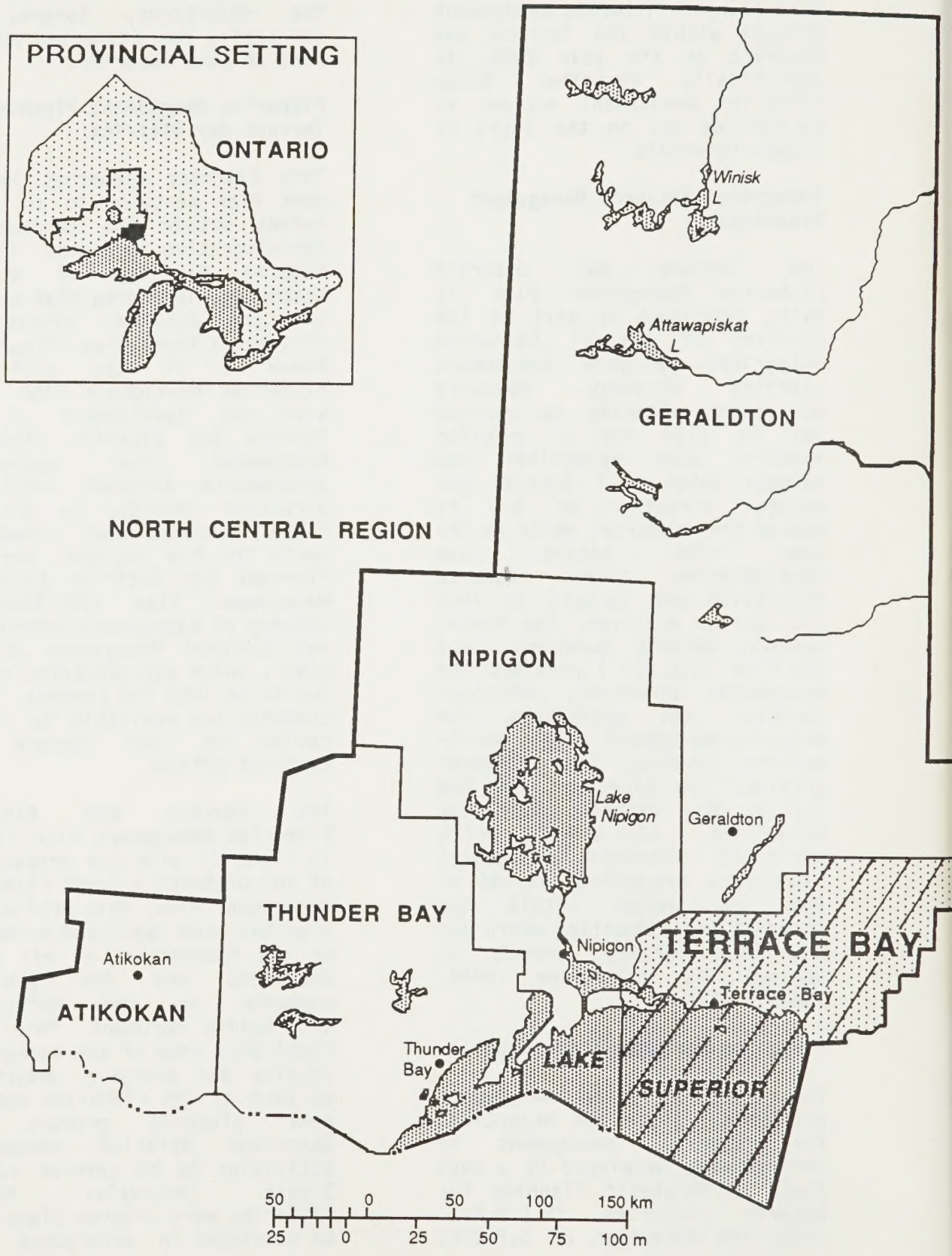
The general policies, management principles, goals and objectives for fisheries management in Ontario were developed by a task force on Strategic Planning for Ontario Fisheries (S.P.O.F.). Under the direction of S.P.O.F. the Lake Superior Strategic Fisheries Plan (OMNR, 1987) was written. It specifically outlines the objectives, targets and strategies for fisheries management on Lake Superior.

Fisheries Management Planning in Terrace Bay District:

This District Fisheries Management Plan pertains to all water bodies within the Terrace Bay Administrative District of the Ontario Ministry of Natural Resources, including that portion of Lake Superior within the district's boundaries (Figure 1). Phase I of the district's Fisheries Management Plan began with the development of the Terrace Bay District Fisheries Management Plan Background Information document under the direction provided by D.L.U.G. These documents then formed the basis for the document entitled "Terrace Bay District Fisheries Management Plan 1987-2000, A Summary of Background Information and Optional Management Strategies", which was presented to the public in 1986 for comment. These comments are available for public review at the Terrace Bay District Office.

The Terrace Bay District Fisheries Management Plan is now in Phase II with the preparation of the district's Draft Fisheries Management Plan. This preliminary plan has been developed primarily on the foundations of all these documents and the public's comments on the Background Information document. This plan highlights some of the background studies and analysis undertaken as part of the fisheries management planning process. It describes detailed management activities to be carried out by 5-year intervals. Annual fisheries work program plans will be developed in accordance with

FIGURE 1:
TERRACE BAY DISTRICT REGIONAL AND PROVINCIAL SETTIN



these 5-year implementation schedules.

This document is presented to the public for review and comment. Comments will be incorporated into Phase III of the planning process, the preparation of the final plan. The final approved Fisheries Management Plan will focus on specific management strategies and tactics which will achieve local targets and objectives to the year 2000.

The final approved Fisheries Management Plan will be revised/ reviewed every five years by developing new 5-year implementation schedules and by revising aspects of the Management Plan as they become outdated.

The Terrace Bay District has much potential and diversity in its fisheries resource, the management of which is identified and addressed in this plan.

Public Involvement:

An important component of the fisheries resource management planning process is to solicit public consultation and involvement. Public comment will be incorporated into the development of a preferred Fisheries Management Plan (Figure 2).

All the above-mentioned documents are available for public review at the Terrace Bay District Office.

Indian Fishing Agreements:

The allocation of fish to Indian people under recognized Treaty Rights is an integral part of District Fisheries Management Plans. Negotiations are ongoing at Federal, Provincial and Regional levels to develop Indian Fishing Agreements. These agreements should ultimately be the guidelines for local Band fishing agreements. When Indian Fishing Agreements are reached this plan will be revised if necessary.

Proposed Amendments to D.L.U.G.:

Two major amendments to the District Land Use Guidelines are being proposed in this Draft Fisheries Management Plan. Both involve changing the fisheries targets. The refinement of these targets will require an amendment to D.L.U.G. Public approval of this Fisheries Management Plan will also mean approval of the new targets for D.L.U.G. The public is requested to send their comments on these amendments and this document to the District Manager, Terrace Bay District. These proposed amendments are presented in Table 1 and Appendices 1 and 2.

THE PLANNING PROCESS

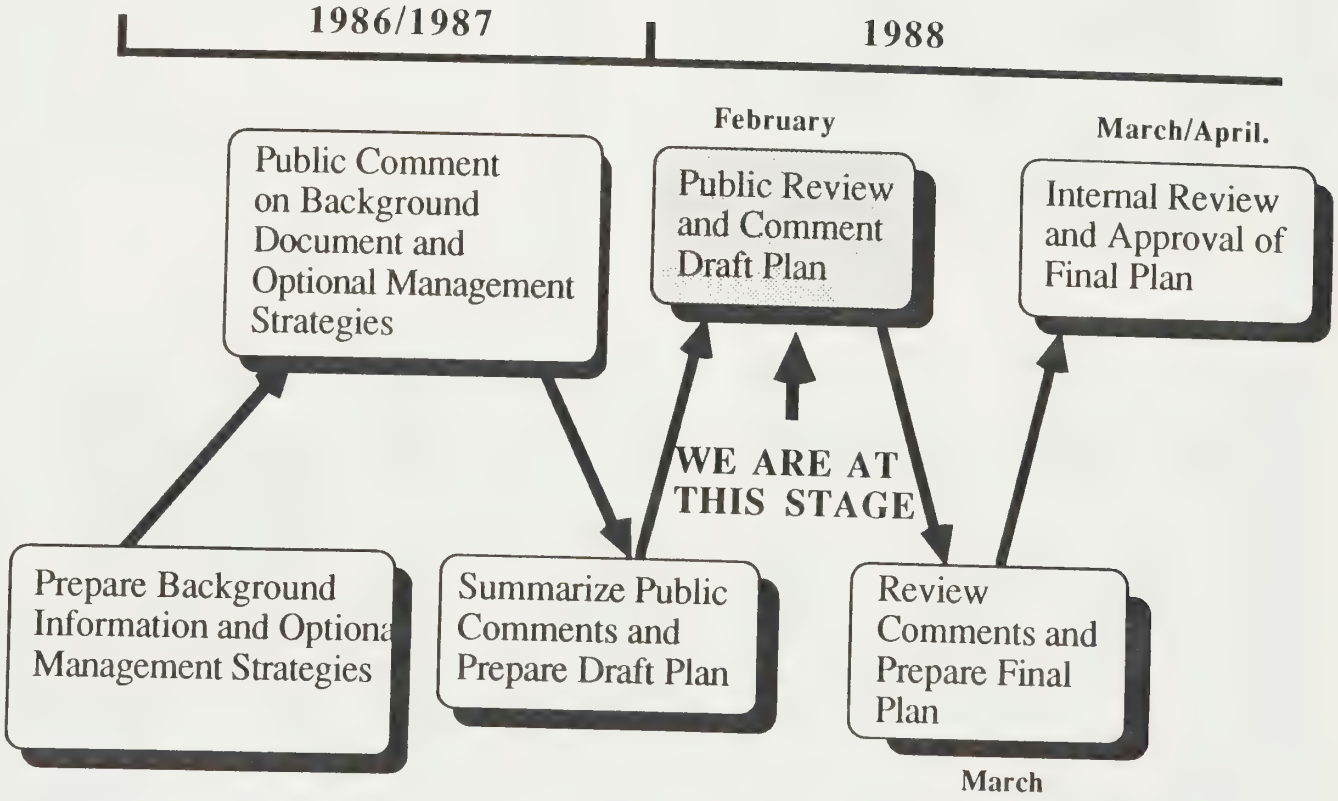


Figure 2. Schedule of the preparation of the Terrace Bay District Fisheries plan.

TABLE 1. TARGET REFINEMENT/DISTRICT USE AND PROJECTIONS[1]

	CURRENT USE (kg/yr)	PROJECTED USE (kg/yr)	D.L.U.G. TARGET (kg/yr)	ALLOWABLE YIELD (kg/yr)	INTERIM REFINED TARGET (kg/yr)
Commercial Fishery					
Bait Fish (doz.) 1986	8,183		To Meet Demand		To Meet Demand
Food Fish (kg) 1986	46,792	150,512	535,000	241,160	150,512[3]
Sport Fishery 1980					
Users - Residents	72,160	105,608			
- Non-Residents	11,200	16,392			
TOTAL	83,360	122,000	100,000	144,510	122,000[3]
Lake Trout	--[2]	--[2]	0.25-0.75 kg/ha of lake trout water	63,313[2]	63,313[2]

[1] The use and target figures are based upon an angling satisfaction rate of one kilogram per angler day (1 angler day = 4 angler hours).

[2] Lake trout component included in sport and commercial fish figures.

[3] D.L.U.G. amendment required.

DISTRICT FISHERIES PERSPECTIVE

The Terrace Bay District covers 1,237,600 ha of land (Clarke, 1983), 1,068,000 ha of water on Lake Superior (MacCallum, 1986), and 69,000 ha of inland waters (Figures 1 and 3).

Terrace Bay District falls mainly within the Great Lakes-St. Lawrence Watershed System and partly within the Hudson-James Bay System. The Hudson-James Bay System flows north into the Albany River System. The Great Lakes-St. Lawrence System splits into 2 secondary divisions with waterways flowing south into Nipigon Bay and Lake Superior. Secondary divisions are further split into 5 tertiary watersheds, which are further split into many localized watershed units. A height of land surrounding the district causes this natural flow and prevents fish migration from one watershed to the next. The only exception to this occurrence is the Long Lake System which was diverted in 1939 to facilitate a Hydro plant for Terrace Bay.

The major sport fish species sought by anglers in the district water bodies are lake trout, brook trout, walleye, rainbow trout and northern pike. The major species taken under the quota system on commercial fish licences are chub, whitefish and lake trout.

Current and projected fish use, allowable yields and targets of both the recreational and commercial fisheries are presented in Table 1. Definitions of terms are presented in the glossary of this document.

The total estimated allowable yield for sport fish species in the district is 144,510 kg/yr. Of this total 38,313 kg/yr is the allowable lake trout yield.

In 1980 approximately 10,200 adult anglers spent 83,360 angler days fishing in the Terrace Bay District. Approximately 80% of this use is attributed to Ontario residents (Bedi and Clifford, 1982).

The population of the district is expected to increase by 47% by the year 2000, primarily due to the development of the Hemlo Goldfields (Ontario Ministry of Municipal Affairs, 1986). Based on this increase, total angler days could be expected to rise to 122,000. At a harvest success rate of 1 kg/angler day, 122,000 kg of fish/yr could be harvested by the year 2000.

The estimated allowable yield for commercial food fish is 241,160 kg/yr. Five commercial fishing licences are issued annually from the Terrace Bay District Office for the area of Lake Superior within the district. Three other commercial operators have quotas on the Lake Superior Shoals within the district but are licenced through other districts. In 1986 the commercial fish quotas allocated totalled 96,830 kg. The reported harvest was 46,792 kg of fish worth a wholesale value of $65,204.00.

The commercial fish target is 150,512 kg annually (OMNR, 1987) from the district's portion of Lake Superior. Of this total, 25,000 kg/yr is expected to be lake trout.

There are 54 bait fish blocks in the Terrace Bay District. In 1986, 20 blocks were licenced and 8,183 dozen bait fish valued at $10,670.00 were caught. An increase in bait fish demand is expected due to the projected increase in angling pressure. The expected increased bait fish demand will be well within the production capabilities of district waters.

FIGURE 3:

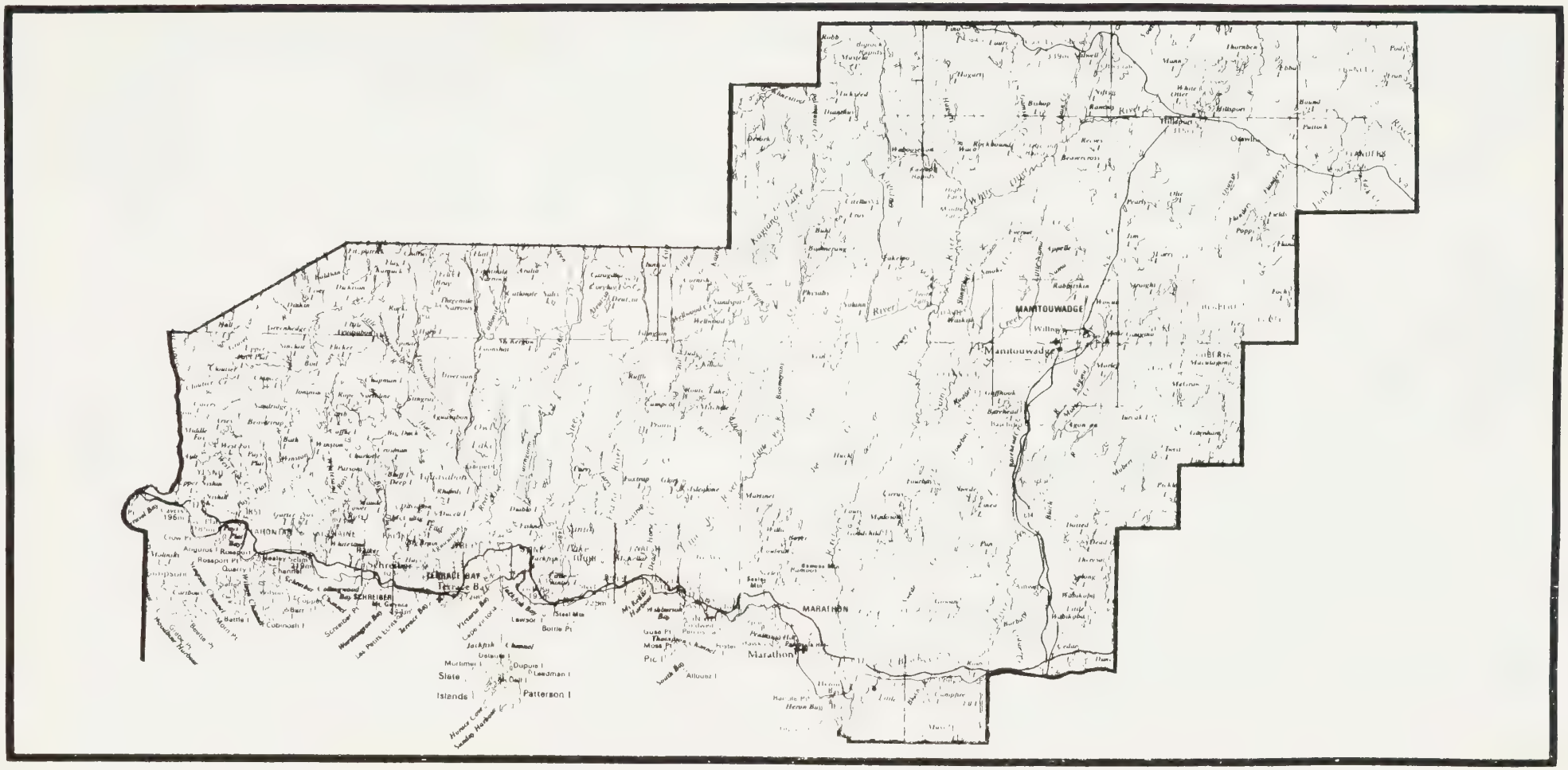
TERRACE BAY DISTRICT

LEGEND

N

Miles 10 0 10

Kilometres 10 0 10



The tourist industry within the district is not extensively developed. There are 8 commercial tourist operators. Four depend upon Highway 17 tourist traffic while the other 4 offer fly-in services to 37 outpost camps. Of these 37 camps, 16 offer fishing primarily for walleye and/or northern pike. In 1982, these operations totalled 3,366 user days and grossed a revenue of $160,000 (Courtney, MTR, 1983). Tourism is expected to increase.

Fish derbies are another major stimulus to commercial tourism along the north shore of Lake Superior. They are a major source of revenue and advertising for local shoreline communities, such as Rossport.

MANAGEMENT DIRECTION

The goal of the Ministry of Natural Resources is to provide opportunities for continuous economic and social benefits to the people of Ontario through the development and conservation of Ontario's natural resources.

The objectives of fisheries management in Northwestern Ontario are to protect, rehabilitate, enhance, and maintain Ontario's fish communities and their environments to provide an optimum contribution of fish, fishing opportunities, and associated benefits to society (OMNR, 1982b).

These broad management objectives have provided the direction for the more specific objectives and targets developed for the Terrace Bay District's commercial, recreational and bait fish fisheries. Although these are consistent with the general objectives, they also reflect the capacity of the local fisheries to meet the demands of resource users.

The specific strategies and tactics which were developed to enable the Terrace Bay District to meet the objectives and targets are presented in the section entitled "Management Activities".

The management activities which will be undertaken for the first 5-year period 1987-1991, should this plan be approved, are outlined in the Implementation Schedule (Table 2).

Sport Fish Management:

Objective:

The Terrace Bay District sport fish objective is to meet the demand for sport fishing consistent with the limits of an optimum sustainable yield.

Target:

The recreational fishing target is to meet the anticipated angling demand by the year 2000 of 122,000 angler-days, at an angler satisfaction level of 1 kilogram per angler-day or an annual harvest of 122,000 kilograms of fish. This represents an increase in the target value from the 100,000 angling opportunities presented in the District Land Use Guidelines. This increase is due to a projected population increase in the district. **Included in the revised recreational fishing target is the lake trout target of 35,000 kg of lake trout from Lake Superior (OMNR, 1987) and 3,313 kg/yr (0.37 kg/ha/yr) from inland lake trout lakes.** The D.L.U.G. lake trout target was to produce 0.25 to 0.75 kilograms of lake trout per hectare per year from all lake trout waters. The refined district lake trout targets fall within this range.

Discussion:

The recreational fishing target is based on the 1980 Provincial angling survey. In terms of yield, the target is to provide a total potential sport fish yield of 122,000 kg annually by the year 2000.

The most popular sport fish species angled in the district are lake trout, brook trout, walleye and rainbow trout.

The waters of Lake Superior and its tributaries will supply approximately 34% of projected cold water fisheries angling opportunities. This will include lake, brook and rainbow trout as well as pink, coho and chinook salmon. Salmon have established themselves as an important component of the Lake Superior

fish community. The culture of salmon for Lake Superior will not be practised directly by the Ministry of Natural Resources. However, under the auspices of the Community Fisheries Involvement Plan (C.F.I.P.), organized groups may participate in actively managing chinook salmon (the future role of C.F.I.P. in fisheries management is currently under review and changes may occur which will affect the strategies and tactics presented in this plan). This participation will be on a limited basis and subject to district and the Great Lake Management Committee review. The present emphasis on Lake Superior in terms of Ministry initiatives remains on the enhancement of lake trout populations. However, an estimated allowable yield for salmonid species on Lake Superior (excluding lake trout) of 6,000 kg annually by the year 2000 will be available to the recreational sport fish industry.

The inland sport fish target is to annually harvest 81,000 kg of sport fish per year by the year 2000. If this is to be realized, fishing effort will have to be distributed evenly across all district waters so that the accessible lakes and streams will not become overfished.

Management efforts will be directed toward establishing new lake trout waters (Santoy Lake), developing and/or upgrading access points on Lake Superior, rehabilitating the Lake Superior lake trout populations, and monitoring the fish harvest. As well, a lake management plan for Killala Lake will be developed. Killala Lake is presently a sanctuary lake from which lake trout spawn is collected for the Province's hatcheries. The lake plan will consider limited angling, tourism, cottaging opportunities and the sanctuary status.

It will also be necessary to encourage the use of under-utilized species and to increase fish yields from underproducing waters.

Commercial Fish Management:

Objective:

The Terrace Bay District commercial fishing objective is to encourage the harvest of commercial fish when it is biologically and economically feasible.

Targets:

The commercial food fish target is to sustain an annual harvest of 150,512 kg of fish species from Lake Superior by the year 2000. **Of this target 25,000 kg/yr is lake trout** (OMNR, 1987). This target differs significantly from the D.L.U.G. commercial fish target of 535,000 kg/yr, resulting in the Ministry's proposal to revise the D.L.U.G. target. The new target was assigned using a percentage of the lake-wide total in which equal weight was given to the 1987 district quotas and the 1981-85 average district harvest (OMNR, 1987).

The commercial bait fish target is to encourage the bait fish industry to meet the demands through natural and artificial culture, consistent with the anticipated increase in angler demand.

Discussion:

With the exception of bait fish, commercial fishing activities will be confined to the waters of Lake Superior.

In 1986 the licenced commercial fish operators harvested 46,792 kg of fish from the 96,830 kg of allocated quotas for the district's portion of Lake

Superior. The apparent low utilization of the present quotas can in part be attributed to poor market conditions for some species, travel distances, and the vast stretches of unsheltered waters on this portion of Lake Superior. The commercial fish target of 150,512 kg will still allow for considerable expansion of the present harvest.

The direction commercial fisheries management is taking is to establish long-term targets based on sustainable yields. Some short-term fluctuations in harvest may occur in accordance with fluctuations in fish year class abundance of certain fish stocks.

If the commercial lake trout target of 25,000 kg/yr by the year 2000 is to be realized, the lake trout stocks in Lake Superior must be rehabilitated and available for harvest.

Management efforts will be directed towards developing and/or upgrading access points on Lake Superior, rehabilitating the Lake Superior lake trout populations and monitoring the fish harvest.

MANAGEMENT ACTIVITIES

A number of issues related to meeting the fisheries resources targets have been identified in the previous section. Additional issues have been identified in the background documents and through public input.

In order to meet the demand on the fishery, district waters must be managed to achieve their greatest sustainable yield. To accomplish this the issues, which have been summarized into 6 categories, must be addressed on a district-wide basis.

The strategies and tactics which will enable the Terrace Bay District to manage the fish resources and meet the stated targets and objectives are listed under the relevant issue headings below.

Improvement of Environmental Quality:

Habitat degradation has led to a loss of environmental quality in a number of district water bodies. This has contributed to decreased fish production and/or fish community imbalances which results in the reduction of fishing opportunities.

Environmental quality may be lowered through the extraction operations of timber and mineral or aggregate industries, industrial or municipal pollution, acidification, the construction and operation of water control structures and private development along waterfronts. In addition, the presence of contaminants in fish flesh may render it unsuitable for human consumption.

Although it is the mandate of the Ministry of the Environment (MOE) to achieve and maintain a quality of the environment, including air, water and land, that will protect human health and the ecosystem and will contribute to the well-being of the people of Ontario, the MNR mandate is in part concerned with protecting and conserving public land and water. Thus the following strategies and tactics will address this issue in terms of the MNR mandate.

Strategies and Tactics:

1) Increase efforts to determine extent of mercury, other fish contaminants, and acid rain problems by:

   - recommending annually to MOE lakes which should be sampled for contaminants
   - continuing to collect fish samples for MOE in conjunction with lake surveys or other fish management activities
   - co-operating with other jurisdictions on acid rain research

2) Increase public awareness of fish contaminant problems by:

   - issuing news releases and newspaper articles on this subject
   - informing the public in conjunction with related meetings
   - involving MOE in public meetings

3) Prevent degradation of fish habitat by:

   - reviewing with input into municipal, other government agencies and private sector plans/programs regarding herbicide and insecticide spraying, water control structure and bridge construction, access road construction, mining exploration, aggregate removal and timber management

- monitoring and enforcing legislation pertaining to fish habitat protection
- informing the public through news releases and newspaper articles of the proper procedures for carrying out activities on Crown land

4) Rehabilitate lost fish habitat by:

- encouraging user groups to take precautions which will prevent damage to or loss of fish habitat
- encouraging and working with resource extraction companies to rehabilitate areas affected by their operations
- monitoring and enforcing ordered rehabilitation of fish habitat
- supporting habitat rehabilitation projects under the Community Fisheries Involvement Program (C.F.I.P.)
- continuing to identify sites of habitat degradation and work closely with MOE to mitigate the situations

Minimize User Conflicts:

Conflicts arise between both consumptive and non-consumptive users of the fisheries resource. These conflicts may be real or perceived. The most obvious conflicts occur between consumptive users. These users include resident and non-resident anglers, commercial fish operators, tourist operators, and Indian people.

Local anglers are the primary user group. It is a generally held misconception that non-residents are overfishing many water bodies. Non-resident anglers constitute only 20% of the district angling community. Consequently, there are few areas where direct competition between resident and non-resident anglers occur.

Anglers perceive that commercial fish operators compete with them for available lake trout in Lake Superior.

Anglers and tourist outfitters are in conflict regarding access. The outfitters advocate access control to preserve the remoteness of their operations. The anglers prefer to see the maintenance and expansion of access roads. Generally in the district there is a lack of developed and/or maintained access points for anglers. The two groups are also in direct competition for the fish. On many commercial outpost camp lakes in the district, access is now available by snowmachine or all terrain vehicles much of the year and angling pressure is heavy. This results in a decrease in successful fishing opportunities for the tourist outfitter clientele as well as a loss of remoteness.

The MNR's tourism objective as identified in D.L.U.G. outlines this Ministry's commitment to providing the tourist industry with tourism opportunities on Crown land as well as making outdoor recreational opportunities available for the local users.

The Ministries of Natural Resources, Tourism and Recreation, Northern Development, and Mines, along with both the tourism and resource extraction industries, are presently working closely to develop strategies that will work towards meeting each other's objectives while reducing potential conflicts. Therefore, while the Fisheries Management Plan acknowledges the importance of tourism, it cannot at this time identify site specific lakes exclusively for tourism use and the type of opportunities (i.e. lodge and outpost camp lakes) these lakes can support. The plan does,

however, support that certain lakes identified in D.L.U.G. be further evaluated along with the shore of Lake Superior to determine their tourism potential.

Some access roads constructed for resource management may indirectly access remote tourism lakes, causing them to lose their degree of remoteness and increasing the opportunity for overharvesting the fishery.

There is a lack of public awareness or appreciation of some aspects of fisheries management causing conflict between the public and fisheries managers. In some instances the public views the fisheries resource as limitless and unrealistic demands are placed on the resource. On the other hand some fish species are perceived by segments of the public as being undesirable. Non-traditional uses of the fisheries resource such as viewing, or fish as indicators of the health of the environment, are often overlooked.

Strategies and Tactics:

1) Enhance understanding and acceptance between user groups by:

   - promoting meetings of various user groups and agencies
   - supporting the process of negotiating Indian Fishing Agreements
   - informing public of fisheries management activities and benefits through news releases and media updates

2) Attempt to minimize user conflicts between anglers and commercial fish operators by:

   - continuing to allocate commercial fish quotas within the total allowable harvest on Lake Superior
   - monitoring the fisheries, both sport and commercial, to maintain good information regarding the status of fish stocks
   - recommending and providing input into the Lake Superior Management Committee in order to make regulation changes as required to maintain healthy fish stocks in Lake Superior
   - increasing patrols and investigations to enforce applicable regulations and quotas
   - continuing to involve the local commercial fishing association in the process of quota adjustments and allocations
   - maintaining existing fishing zones on Lake Superior until biological information indicates new zones are required
   - any additional and presently unallocated quotas available in the future will be allocated to existing commercial fishing licences

3) Reduce conflict between anglers and tourist operators by:

   - altering fishing seasons or access on selected lakes to maintain a high quality fishery
   - developing a boat cache system for specific lakes in the Terrace Bay District
   - promoting access development and good fishing opportunities within close proximity of major communities
   - encouraging C.F.I.P. in the vicinity of major communities and by tourist operators

4) Reduce conflict between tourist operators and resource extractors by:

   - encouraging agreement on mutually beneficial road locations

- reviewing with input into resource management plans and new road locations
- increasing efforts to enhance understanding and communications with and between resource user groups
- altering access on select lakes to maintain a high quality fishery

Increase Scientific and Technical Information:

Fisheries managers are often hampered by inadequate scientific and technical information. Some areas where more information is required are: inventory and assessment; fisheries use and harvest data; extent of illegal fishing activities; validation of commercial fish catches; fisheries productivity and yields; long-term species interactions and native commercial, subsistence and sport fish harvest data.

Strategies and Tactics:

1) Gain more accurate and up-to-date information concerning the fisheries resource and its users by:

   - conducting lake and stream aquatic inventory surveys
   - conducting assessments and inventories of fish populations in prominent water bodies
   - conducting angler surveys to gather information regarding utilization and harvest
   - conducting intensive creel censuses from specific areas on Lake Superior
   - using volunteers/co-operators to supply harvest information
   - monitoring the bait fish harvest
   - utilizing the above data to recommend necessary season, limit, access, or stocking changes

2) Apply new technology (computers) to aid and expedite data management and reporting by:

   - continuing to train and update staff in the use of computers
   - acquiring appropriate software and hardware

3) Encourage and stimulate research on Lake Superior by:

   - encouraging a study of stocking and reproductive success of stocked lake trout in Lake Superior by the Lake Superior Unit or educational groups
   - in conjunction with the Lake Superior Unit conduct assessment programs on the status of commercial and sport fish stocks in the Terrace Bay District
   - encouraging private or educational groups to collect information regarding pacific salmon and their interaction with other fish species

4) Encourage applicable fisheries information exchanges between agencies by:

   - encouraging the review of current literature
   - encouraging communications between research facilities, other agencies, and assessment units

5) Conduct experimental management projects by:

   - introducing new species to develop new fisheries
   - Developing a lake management plan for Killala Lake which presently has sanctuary status. This plan would consider tourism, limited angling, cottaging, and the retention of its sanctuary status.

Improve Access to Lake Superior:

Access points onto Lake Superior are very limited due to the rugged terrain, vast stretches of unsheltered shoreline and the necessity of crossing a railroad line. Presently there is limited access at Marathon, Terrace Bay and Rossport. Increased access onto Lake Superior would increase the fishing opportunities available in Terrace Bay District to both anglers and the commercial fish operators.

Strategies and Tactics:

1) Encourage the development and maintenance of access points on Lake Superior by:

   - ensuring access is developed at one site on Lake Superior within the next 5 years
   - encouraging private or municipal development of other sites
   - making Crown land available for marinas/resorts and points of entry to Lake Superior

Promote Use of Underutilized Species:

Lake whitefish, northern pike, yellow perch and pink salmon are generally underutilized by anglers in the Terrace Bay District. Public misconceptions on the edibility of some of these species exist. There is a lack of public information on how to catch and prepare these underutilized fish.

Commercial fish quotas are not fully utilized. Lake whitefish, chub and lake herring quotas are generally not filled. Many commercial bait fish areas are not being adequately utilized.

Strategies and Tactics:

1) Promote the utilization of lake whitefish, northern pike, yellow perch and pink salmon by anglers, lake whitefish and chub by commercial fish operators, and minnow species by licenced bait fish harvesters by:

   - expanding areas available for whitefish dip-netting
   - distributing information packages on fishing and cooking techniques for these species as well as locating where they can be caught
   - increasing access to underutilized fisheries lakes in conjunction with other resource management plans
   - taking steps to ensure licenced bait fish areas are being adequately utilized

Prevent the Loss of Fish or Fishing Opportunities:

Fish or fishing opportunities may be lost due to a variety of reasons. In the Terrace Bay District some of these losses occur due to the illegal introduction of new fish species into a water body, the illegal harvest of fish, dams, culverts and bridge construction impeding the movement of fish species, and private, municipal and industrial development such as mines, industries, municipalities and MNR road closures or closing water supply lakes to fishing. Although parts of the district are well accessed, they are not well "boat" accessible due to few lakes with boat launch facilities. Fishing pressure could be more evenly distributed across the district with improvements to and by increasing the number of lakes with boat launch facilities.

Strategies and Tactics:

1) Undertake fish species community changes in underproducing waters by:

   - altering fish populations in

select lakes with no or limited sport fish
- encouraging public participation in stocking programs through Community Fisheries Involvement Programs

2) Reduce the possibility of unplanned introductions of fish by:

- informing the public through pamphlets and meetings of the problems associated with introductions of new fish species into water bodies
- continuing to strictly enforce the regulations regarding the introductions of new fish species
- implementing new regulations regarding restricted use of live bait in certain water bodies (Killala Lake, see section 4; stocked brook or aurora trout lakes

3) Maintain or rehabilitate fish stocks by:

- continuing to support the Federal Sea Lamprey Control Program
- maintaining lake trout stocking into Lake Superior for rehabilitation purposes and to provide angling and commercial fishing opportunities
- compiling a District Enforcement Plan which will ensure the best use of fish management and compliance with Acts and Regulations
- promoting the use of northern pike, yellow perch, lake whitefish, and pink salmon in order to redistribute some of the fishing pressure
- reviewing with input into culvert, dam, and bridge construction; private, municipal, and industrial development; resource extraction; and other government agency plans in order to minimize detrimental effects on fish populations and habitat

IMPLEMENTATION

General:

This Fisheries Management Plan provides the direction for fisheries management activities within the Terrace Bay District to the year 2000, a time frame which is consistent with the planning period established for all current strategic land use planning exercises. All fisheries management activities during this period will be consistent with the strategies and tactics selected to achieve the stated targets and objectives.

Strategies and tactics identified in this plan will be implemented through:

- the preparation of successive 5-year implementation schedules
- programs and projects approved and funded under the Ministry of Natural Resources work planning process
- input to or participation in other programs carried out by the Ministry of Natural Resources
- encouraging dialogue and communications between resource user groups
- co-operative efforts with local sportsmen's organizations, and private interest groups/ individuals under the Community Fisheries Involvement Program, educational groups, or volunteer programs
- review and approval of work plans and proposals from municipalities, private individuals, industry, and government agencies
- public education through various media and public meetings

Routine planning and administrative functions have not been included. Enforcement activities have not been outlined either as they will be summarized in the Terrace Bay District Enforcement Plan which is presently being prepared. However, many strategies and tactics involving enforcement have been mentioned in the plan and are carried out on an ongoing basis.

Five-Year Implementation Schedule:

The specific management activities to be implemented during the first 5-year (1987-91) period are described in Table 2. These tactics, described as individual projects, have been identified according to:

- those which can be carried out at existing funding levels
- those which would require additional funding such as recreational sport fish licence funds
- those which can be partially carried out at existing funding levels but would also require additional funding to complete the project

Annual work plans will be developed from the priorities established in the 5-year implementation schedule and will address both funding and time frame requirements for implementation of tactics.

The implementation schedule for subsequent 5-year periods will formally be prepared in 1991 and 1996 respectively. These schedules will be subject to public notice and review, and must be approved by both the District Manager and Regional Director. The implementation schedule will be revised or amended should priorities change within the district. The Fisheries Management Plan will be reviewed at 5-year intervals or when major revisions are required. Should any significant modifications or revisions to either the implementation schedule or Fish-

eries Management Plan be required, the same public review and approval process will be followed.

The implementation of the Fisheries Management Plan is subject to the requirements of the Environmental Assessment Act. Compliance with the class assessment requirements of the Act may result in changes to specific tactics identified in this plan, and consequently could affect specific projects described in the implementation schedule or annual plan.

TABLE 2. TERRACE BAY DISTRICT FISHERIES MANAGEMENT IMPLEMENTATION SCHEDULE 1987-91

MANAGEMENT ACTIVITY	LOCATION	YEAR	EXISTING FUNDING	ADDITIONAL FUNDING	TARGET ADDRESSED
IMPROVEMENT OF ENVIRONMENTAL QUALITY					
1. Review and input into resource management plans such as municipal, herbicide and insecticide spray programs, water control structures and bridge construction, access roads, mining exploration, aggregate removal and timber management, other government agency plans, private sector initiatives and work permits.	District-Wide	1987-91	X		All
2. Increase monitoring and enforcement of operations which could threaten fisheries habitat.	District-Wide	1987-91	X	X	Lake Trout Sport Commercial Bait Fish
3. In conjunction with other services, inform public of proper procedures for carrying out activities on Crown land in order to prevent habitat degradation.	District-Wide	1987-91		X	All
4. Expand public awareness of fish contaminant monitoring program.	District-Wide	1987-91		X	Commercial Lake Trout Sport
5. Continue collection of fish samples from Lake Superior and two inland lakes per year for contaminant analysis by the Ministry of the Environment.	Lake Superior, Bound, Charlotte, Mooseskull, Waboosekan, Whitesand, Prairie, Killala and White Otter Lakes	1987-91		X	Commercial Sport Lake Trout

TABLE 2 (cont'd)

MANAGEMENT ACTIVITY	LOCATION	YEAR	EXISTING FUNDING	ADDITIONAL FUNDING	TARGET ADDRESSED
IMPROVEMENT OF ENVIRONMENTAL QUALITY (cont'd)					
6. Support community projects (CFIP) to rehabilitate degraded fish habitat or improve existing habitat.	Wabikoba, Barehead, Poppy	1988-90	X	X	Sport
MINIMIZE USER CONFLICTS					
1. Monitor sport and commercial fisheries through increased enforcement patrols (this will be accomplished through the creation of one new Conservation Officer position in the district).	District-Wide	1987-91	X	X	All
2. In conjunction with other services, hold a minimum of two public meetings per year with resource users to discuss mutual concerns.	District-Wide	1987-91	X	X	All
3. Develop a boat cache policy for selected lakes.	Macutagon, Garnham	1987-91	X	X	Sport
4. Alter access on select lakes to maintain a high quality fishery.	Cornish, Macutagon, Garnham	1987-91	X	X	Sport
5. Encourage meetings between various user groups.	District-Wide	1987-91	X		All

TABLE 2 (cont'd)

MANAGEMENT ACTIVITY	LOCATION	YEAR	EXISTING FUNDING	ADDITIONAL FUNDING	TARGET ADDRESSED
PREVENT THE LOSS OF FISH AND FISHING OPPORTUNITIES					
1. Continue to stock lake trout into Lake Superior to rehabilitate the lake trout populations.	Lake Superior: Prairie Cove, Sturdee Cove, Coldwell, Rossport, Terrace (Hydro) Bay	1987-91	X		Lake Trout Sport Commercial
2. Through increased stocking of select lakes provide good fishing opportunities within close proximity of towns.	Angel, Barehead, Bews, Botham, Drop, Emerald, Gaug, Jason, Lamont, Spectacle, Mickey, Dew, Three Finger and White-sand Lakes	1987-91	X		Sport
3. Support fish culture projects initiated by interest groups by providing support and funding under CFIP.	District-Wide	1987-91	X	X	Lake Trout Sport
4. Encourage and promote development of access points.	Santoy, Jackfish, Wowun, Little Mose, Agonzon, Dead Otter, Kagiano, Steel River at Deadhorse Road	1987-91		X	Lake Trout Sport
5. Enhance fish populations in lakes with no or limited sport fish through stocking of game species and/or removal of undesirable fish species.	Barehead, Three Finger, Dickison, Vein (Walleye)	1987-90		X	Sport
	Santoy (Lake Trout)	1987-89		X	Sport, LT
	Ashmore, Bluebill, Ross, Ault, Flats, Gordon, Eric's (Brook Trout)	1987-91	X		Sport

TABLE 2 (cont'd)

MANAGEMENT ACTIVITY	LOCATION	YEAR	EXISTING FUNDING	ADDITIONAL FUNDING	TARGET ADDRESSED
PREVENT THE LOSS OF FISH OR FISHING OPPORTUNITIES (cont'd)					
5. (cont'd)	N.L. Lake (Aurora Trout)	1987	X		Sport
	Southpine, Eric, Bews, Ambrose (Sucker removal then stocking with brook trout)	1988-91	X		Sport
	Foxxe (Splake)	1991	X		Sport
6. Develop lake management plans which would consider limited angling, tourism and cottaging opportunities as well as sanctuary status.	Killala Lake	1988-89	X		LT, Sport
	Aurora Trout Lakes	1988-89	X		Sport
7. Reduce the possibility of unplanned fish introductions by informing the public of problems associated with these introductions.	District-Wide	1987-91	X	X	All
8. Implement new regulations restricting use of live bait in certain water bodies.	Killala Lake, Aurora Trout Lakes, Stocked Brook Trout Lakes	1988-91	X	X	All
9. Monitor sea lamprey scarring and wounding rates.	Lake Superior	1987-91		X	Commercial LT, Sport
INCREASE SCIENTIFIC AND TECHNICAL DATA					
1. Utilize volunteers/co-operators to supply harvest information.	Lake Superior, Inland Lakes, Tourist Operators	1987-91		X	Sport Lake Trout Commercial

TABLE 2 (cont'd)

MANAGEMENT ACTIVITY	LOCATION	YEAR	EXISTING FUNDING	ADDITIONAL FUNDING	TARGET ADDRESSED
INCREASE SCIENTIFIC AND TECHNICAL DATA (cont'd)					
2. Install creel census boxes at designated access points to survey anglers using the resource.	Wabikoba, Winston, Big Duck, Garnham, Cornish, Macutagon, Kagiano, Steel and Prairie Lakes; Steel River; Lake Superior: Neys Park, Coldwell, Marathon, Hydro Bay, Rossport, Slate Islands, Aguasabon River Mouth	1987-91		X	Commercial Sport Lake Trout
3. Consider catch limit alterations for Lake Superior salmonids, closed season for lake trout during spawning runs, altered brook trout and/or walleye seasons.	District-Wide	1987-91	X		Lake Trout Sport
4. Continue to update staff in the field of computers in order to aid and expedite data management and reporting.	District-Wide	1987-91		X	All
5. Conduct lake and stream surveys on water bodies which are to be accessed within 5 years.	Bissonette, Musher, Kentron, Fran, Pody, Gracie, Fakeloo, Loon, Spinnet, Gaffhook, Chapman, Cameron, Pottery and Leader Lakes, Hanes Creek, Black River	1987-91		X	Sport Bait Fish

TABLE 2 (cont'd)

MANAGEMENT ACTIVITY	LOCATION	YEAR	EXISTING FUNDING	ADDITIONAL FUNDING	TARGET ADDRESSED
INCREASE SCIENTIFIC AND TECHNICAL DATA (cont'd)					
6. Survey unsurveyed lake trout lakes.	Margon, Seeley, Three Moose, Geordie, Prospect	1988-91		X	Lake Trout Sport
7. Monitor exploitation rates of various lake trout stocks.	Slate Islands, Rossport Islands	1987-91		X	Sport, LT Commercial
8. Conduct fish population assessments and inventories in prominent water bodies.	Steel River, Dead Otter, Dotted, Garnham, Bare-head Lakes, Aurora Trout Lakes, plus five other lakes with possible potential for brook trout stocking	1987-91		X	Lake Trout Sport
9. Conduct angler mail surveys in conjunction with the new angling licences to determine utilization and harvest.	Province-Wide	1989-91		X	Sport Lake Trout
10. Develop an assessment program to monitor fish populations and habitat conditions.	Moberly Bay, Peninsula Harbour	1987-91		X	Lake Trout Sport Commercial
11. In conjunction with the Lake Superior Unit, determine stocking and spawning success and age of maturity of stocked lake trout.	Lake Superior	1989-91		X	Sport Commercial Lake Trout

TABLE 2 (cont'd)

MANAGEMENT ACTIVITY	LOCATION	YEAR	EXISTING FUNDING	ADDITIONAL FUNDING	TARGET ADDRESSED
PROMOTE USE OF UNDERUTILIZED SPECIES					
1. Expand available whitefish dip-net areas.	District-Wide	1987	X		Sport
2. Encourage fishing for underutilized species through distribution of information packages, public meetings, news releases and newspaper articles.	District-Wide	1988-91		X	Sport Lake Trout
3. Increase access for bait fish harvesters through input into resource management plans.	Bait Fish Lakes	1987-91	X		Bait Fish
IMPROVE ACCESS TO LAKE SUPERIOR					
1. Develop one access point on Lake Superior within the next five years. Encourage private or municipal development of other sites.	Terrace (Hydro) Bay, Jackfish, Coldwell or Marathon	1988-91		X	All

CONCLUSION

Effectively managing the fisheries resource to ensure continued social and economic benefits is a complex activity and a major responsibility. The Ontario Ministry of Natural Resources has been given this responsibility. The basic tool required to achieve this is a Fisheries Management Plan, a plan which will set out long-term goals for the use of our resource, outline the concerns, and define the essential measures necessary to balance a limited resource with the demands that are being placed upon it.

This plan addresses the concerns of the Terrace Bay District's fisheries resource and provides the resource users with an insight into the complex problems of fisheries management. At present, the Terrace Bay District enjoys the unique situation of having a commercial food fish surplus, a bait fish surplus, and the ability to meet our sport fish targets. The overall objective of this plan is to ensure that the Terrace Bay District remains a quality fishing area for years to come. It is hoped that this preliminary plan will stimulate constructive public comments which will help shape the final plan.

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APPENDIX 1

PROPOSAL FOR AMENDMENT TO THE TERRACE BAY DISTRICT LAND USE GUIDELINES TO REFINE THE SPORT FISH TARGET (AMENDMENT #87-002).

The Terrace Bay District Fish and Wildlife service proposes to amend the sport fish target in the D.L.U.G. The current target is "to meet the anticipated angling demand in the year 2000 of 100,000 angler-days, at a satisfaction level of 1 kilogram per angler-day or 100,000 kg of fish". The proposed target is to sustain an annual harvest of 122,000 kg of sport fish per year from the waters of the Terrace Bay District by the year 2000. Included in the revised recreation fishing target is the lake trout target of 35,000 kg/yr of lake trout from Lake Superior (OMNR, 1987) and 3,313 kg/yr from inland lake trout lakes.

This amendment is based on a projected population growth of 47% within the district by the year 2000 (Ontario Ministry of Municipal Affairs, 1986). The projected growth is expected to occur in response to development by mining companies in the Hemlo and Winston Lake areas.

The proposed sport fish target is within the allowable yield for sport fish in this district.

The public is invited to send their comments on this proposed amendment (amendment #87-002) to the District Manager, Terrace Bay District, by March 1, 1988.

APPENDIX 2

PROPOSAL FOR AMENDMENT TO THE TERRACE BAY DISTRICT LAND USE GUIDELINES TO REFINE THE COMMERCIAL FOOD FISH TARGET (AMENDMENT #87-001)

The Terrace Bay District Fish and Wildlife service proposes to amend the commercial food fish target in D.L.U.G. The D.L.U.G. target is "to produce 535,000 kg of commercial fish by the year 2000". The proposed target is to sustain an annual harvest of 150,512 kg of commercial fish from Lake Superior by the year 2000, of which 25,000 kg/yr is lake trout. The proposed commercial fish target is taken from the Lake Superior Strategic Fisheries Plan (L.S.S.F.P.). It was calculated by assigning a percentage of the lake-wide total in which equal weight was given to 1987 district quotas, the 1981-1985 average district harvests, as well as partitioning the yield based on percentage area of Lake Superior which is shallower than 50 fathoms.

In 1986 a total of 46,792 kg of fish were taken by the 5 commercial licences in this area. Harvest between 1973 and 1986 ranged between 10,720 and 60,148 kg. Reasons for under quota harvests include low market prices, large areas of inaccessible shoreline and vast stretches of open, unsheltered water.

The proposed commercial fish quotas represents a major decrease in quota from the District Land Use Guidelines. However, the present harvest levels are still well below the proposed quota and there is room for an increase in the harvest.

The public is invited to send their comments on this proposed amendment (amendment #87-001) to the District Manager, Terrace Bay District, by March 1, 1988.

GLOSSARY

ALLOWABLE HARVEST:

The theoretical maximum harvest that can be taken annually while maintaining fish populations.

ANGLER DAY:

A measure of fishing effort by anglers. While it is usually accepted that any amount of effort in a day constitutes one angler day, for the purposes of converting angler hours to angler days, one angler day will be the equivalent of four (4) hours of angling effort.

ANGLING OPPORTUNITY:

A measure of supply to indicate the amount of use a resource can sustain. An angling opportunity may be defined as one fishing trip not exceeding one angler day in length.

BAIT FISH:

Any fish which may be legally harvested by the commercial bait fish industry.

COMMERCIAL FISH:

Any fish which may be legally harvested by the commercial fishing industry.

GOAL:

A general purpose to which the M.N.R. aspires.

HABITAT:

The place or type of site where fish species naturally or normally occur.

INTEGRATED RESOURCE MANAGEMENT:

The co-ordination of resource management programs to ensure that conflicts are minimized and that management which would benefit several programs is encouraged. Integrated management encourages multiple use, but recognizes that in some circumstances management of some areas for a single purpose may be necessary.

LAND USE GUIDELINES:

The document which displays direction concerning the use of land and water in a defined area. It identifies where and how the Ministry intends to achieve its objectives in a specific district through the use of Crown land and through influencing the use of private land.

NON-RESIDENT:

Any angler whose principle residence is not in Ontario.

OBJECTIVE:

A quantifiable and attainable end which the Ministry's efforts intend to accomplish.

OPTIMUM SUSTAINABLE YIELD:

The maximum level of resource harvest which can be sustained on a long-term basis without causing detrimental effects on the resource base.

POLICY:

A decision concerning the objectives to be achieved and the means of achieving them.

POTENTIAL YIELD:

The estimated maximum portion of fish weight which can be harvested annually without detrimentally impacting the fish community. Potential yield is calculated using the formula $1.4\ (MEI)^{0.45}$.

PROJECTED YIELD:

The estimated fisheries yield at the year 2000 based upon changes in fish stocks as well as realizing a proportion of the potential yield from waters currently rated as under-producing.

QUOTA:

The amount of fish allocated by species to commercial food fisheries.

REHABILITATION:

Efforts to enhance or restore degraded or stressed fish populations and fisheries habitat to their original condition.

RESIDENT:

Any angler whose principle residence is in Ontario.

SPORT FISH:

Any fish which may be legally caught by anglers.

STRATEGY:

Broadly planned actions or measures to achieve a desired end.

TACTIC:

A specific method designed to achieve one or more strategies.

TARGET:

A quanitifed end to be achieved or completed by a specific date.

USER:

A person or a group of people who use a particular resource.

WORK PLAN:

A plan prepared annually which defines what management activities are to be undertaken for that year.

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ISBN 0-7729-3594-7
(0.25k P.R. 88 01 25)